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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HEINRICH GERS-BARLAG, ANJA MULLER,
FRANZ STAB, and UWE SCHONROCK

Appeal No. 2006-2491
Application No. 10/031,539

ON BRIEF

Before MILLS, GREEN, and LINCK, *Administrative Patent Judges.*

LINCK, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1-5 and 7-20 under 35 U.S.C. § 103(a) in Application No. 10/031,539, filed July 22, 2002. Appellants do not argue the claims separately. Claims 1, 2, and 13 are representative:

1. A cosmetic or dermatological preparation, which is a finely disperse water-in-oil system, comprising

    1. an oil phase,
    2. a water phase,
    3. one or more modified phyllosilicate, which exhibits both hydrophilic and lipophilic properties and positions itself at the water/oil interface, wherein the content of one or more modified phyllosilicate is between

0.05% by weight and 20% by weight based on the total weight of the preparation,

4. one of more flavone, flavanone and/or flavonoid, wherein the content of one or more flavone, flavanone and/or flavonoid is from 0.01 to 5.0% by weight, based on the total weight of the preparation, and
5. at most 0.5% by weight of one or more emulsifiers.

2. The preparation of claim 1, which is emulsifier-free.

13. The preparation of claim 1, wherein the one or more flavone, flavonone and/or flavonoid is a flavone glycoside selected from the group consisting of α-glucosylrutin, α-glucosylmyricitrin, α-glucosylisoquercitin and α-glucosylquercitin.

The following references were cited and relied upon by the Examiner to support his § 103(a) grounds of rejection:

Gers-Barlag	U.S. 6,440,399 B1	Oct. 1, 1998 (pub'n date)
Suzuki	U.S. 5,145,781	Sep. 8, 1992
Msika	U.S. 5,939,054	Aug. 17, 1999
Plaschke	U.S. 6,409,996 B1	May 27, 1999 (pub'n date)

The Examiner has rejected claims 1-5 and 7-12 based on Gers-Barlag, Msika and Plaschke, and claims 13-20 based on Gers-Barlag, Msika, Plaschke, and Suzuki. Examiner's Answer (hereafter "Answer) 3-4.

We affirm the rejection of all the claims on appeal based on the cited prior art for the reasons given by the Examiner and explained below.

DISCUSSION

Background

Appellants' claimed invention is a "cosmetic or dermatological preparation, in the form of a finely disperse water-in-oil system, which does not need any emulsifiers. The preparation comprises modified phyllosilicates, which exhibit both hydrophobic and lipophilic properties . . . ." Appellants' Brief (hereafter Br.) 2. According to Appellants,

these phyllosilicates stabilize the emulsion. Thus, no emulsifier is needed. Specification at 9. See also claims 1 & 2 (reproduced above).

Appellants admit that the following aspects of their invention were known at the time their application was filed: the use of flavones and flavonoids in cosmetics and dermatology as antioxidants and/or light protection substances (Specification at 6); emulsifiers with hydrophobic and lipophilic moieties to lower the interfacial tension between the oil and water phases (*id.* at 7); emulsifier mixtures with both anionic and cationic surfactants (*id.* at 8); and "emulsifier-free finely disperse systems of the water-and-oil type which are stabilized by the addition of micronized inorganic pigments." *Id.* Building on this prior art background, Appellants stabilize oil-in-water emulsions with known modified phyllosilicates rather than "an emulsifier in the traditional sense." *Id.* at 9. Bentone 38 is one of their particularly preferred modified phyllosilicates. *Id.* at 22.

Analysis of the Rejections under 35 U.S.C. § 103(a)

The Examiner's rejection of claims 1-5 and 7-12 relies upon Gers-Barlag for its teaching of "an emulsifier-free water-in-oil type cosmetic composition comprising an oil phase, a water phase, and one or more types of micronized, inorganic metal oxides having amphiphilic properties, and other cosmetic additives (abstract)." Answer 3. According to the Examiner, Msika teaches (1) "water-in-oil sunscreening compositions comprising titanium and/or zinc oxide particles" to which "no additional emulsifiers are added (col. 2, lines 1-9);" and use of "a modified phyllosilicate . . . for stabilizing the composition." *Id.* Bentone 38 (one the modified phyllosilicates used by Appellants) is disclosed in Msika in amounts between 0.1 and 5% by weight. *Id.* at 4 (citing col. 3, ll. 49-55; col. 4, ll. 24-30 & col. 9, l. 55-col. 10, l. 14).

According to the Examiner, flavonoids and their advantages are taught by two of the cited references. *Id.* (citing Msika, col. 5, ll. 41-46 and Plaschke, col. 2, l. 21-col. 4, l. 62). Msika discloses their utility as antioxidants. Col. 5, ll. 41-47. Plaschke discloses they are useful to provide optimal UV-absorption, with "flavonones . . . particularly effective as UV-B filters and flavones . . . particularly effective as UV-A filters." Col. 2, ll. 33-50.

Appellants argue:

> Msika, contrary to the Examiner's assertions, does not teach or suggest an emulsifier-free emulsion. The langauge referred to by the Examiner at col. 2, lines 1-9 does not concern an emulsion; just a dispersion. When Msika's compositions are produced in the form of an emulsion, emulsifiers are required (col. 4, lines 32-43; col. 5, line 19).
>
> At col. 4, lines 32-34, Msika specifically teaches that:
>
> > It will be possible to produce an emulsion of the water-in-oil type. It contains an aqueous phase, a fatty phase and an emulsifying system.
>
> Note that the Example at the bottom of col. 8 uses 10 g of emulsifier Dow Corning 3225C; which amounts to approximately 5% of the total formulation.
>
> Nothing can be found in Msika about the use of phyllosilicates to stabilize an emulsion. [Br. 8.]

In response to this argument, the Examiner again "points to col. 2, lines 1-3 in the Msika et al. reference where the use of emulsifiers are not employed." Answer 6. We agree with Appellants that Msika does not teach or suggest an emulsifier-free emulsion. However the Examiner's erroneous finding does not alter the result in this case, as

Gers-Barlag *does* teach such an emulsion, albeit stabilized with micronized metal oxide rather than phyllosilicate.[1]

Appellants further argue that "Plaschke just teaches compositions comprising flavanoids, and a way of obtaining the flavanoids; but has nothing to do with emulsions." Br. 9. However, as the Examiner found, Plaschke teaches "the benefits of using flavonoids and flavones as effective UV filters in sunscreen compositions (col. 2, lines 33-50." Answer 6. Further, both the primary reference Gers-Barlag and Msika teach the use of flavonoids as antioxidants. See Gers-Barlag, col. 6, line 30 & Msika, col. 5, ll. 41-48.

According to the Examiner, it would have been obvious to modify the composition of Gers-Barlag by adding Msika's modified phyllosilicate and by further adding flavonoid as motivated by Msika and Plaschke, since both teach sunscreening compositions.[2] Answer 4.

The Examiner's rejection of claims 13 to 20 additionally relies upon Suzuki for the teaching of alpha-glycosyl rutin. Answer 5. Given that Gers-Barlag expressly teaches this specific flavonoid (col. 6, l. 30), we consider the additional citation to Suzuki to be cumulative.[3]

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[1] As recognized by Appellants, such emulsifier-free emulsions were in the prior art and "referred to as Pickering emulsions." Specification at 8.

[2] Since Gers-Barlag already teaches a preferred flavonoid, i.e., α-glycosylrutin, this rejection could stand without the Plaschke teachings. *See* discussion *infra* at p. 6. However, there is sufficient motivation to make the Examiner's combination.

[3] Again, while the rejection could stand without Suzuki for the reasons given in note 1, the Examiner's combination is not inappropriate.

We agree with the Examiner that the invention claimed in claims 1-5, 7-12, and 13-20 would have been obvious in view of the cited prior art. The references provide motivation, i.e., reasons to make the claimed combinations.

Gers-Barlag teaches emulsifier-free finely dispersed systems of the water-in-oil type and discloses every limitation of claims 1, 2, and 13, except the addition of a modified phyllosilicate. Contary to Appellants' argument (Br. 6), this reference discloses the use of a flavonoid, i.e., α-glycosylrutin, as an antioxidant in amounts that encompass the range recited in claim 1, i.e., from 0.01 to 5.0% by weight. Col 6, l. 30 & ll. 43-44 ("0.001 to 30% by weight, particularly preferably from 0.05 to 20% by weight"). In addition, Gers-Barlag notes the advantages of adding substances which protect against UV-A and UV-B. Col. 6, l. 64-col. 7, l. 12. Further, Plaschke expressly identifies these compounds as particularly useful as UV-A and UV-B filters. Col. 2, ll. 41-43. Thus, one of ordinary skill in the art would have been motivated to use flavone, flavanone, and/or flavonoid either as an antioxidant and/or as a UV filter in the emulsifier-free emulsions of Gers-Barlag, based on Gers-Barlag's own teachings or on those of Plaschke.

Gers-Barlag does not disclose the addition of a modified phyllosilicate. However, such compounds, including Benton 38, were known to be useful to "optimize the stability" of emulsions and to "strongly potentiate . . . solar protection" in a sunscreen. Msika, col. 3, lines 49-56. And the skilled artisan would have known that "skin care emulsions, polar oil components and, for example UV filters lead to instability," and thus require the addition of "other stabilizers." Gers-Barlag, col. 1, ll. 58-62. Thus, the skilled artisan would have been motivated to add a modified phyllosilicate to the Gers-

Barlag emulsifier-free emulsions in the amounts expressly disclosed in Msika, i.e., 0.1 to 5% by weight. E.g., Msika, col. 10, l. 7. This range falls within that of claim 1.

Appellants argue that "Gers-Barlag et al. teach an emulsifier-free water-in-oil type cosmetic composition comprising . . . one or more types of micronized, inorganic metal oxides" and "fail to teach phyllosilicate." Br. 6. While we agree with this statement, it does not impact our reasoning. The claims do not exclude such metal oxides, as they use "comprising" language. Further, as taught in the specification, micronized, inorganic metal oxides are advantageously included in the claimed invention. Specification at 22-24. *See also* claims 9 & 10. Thus, the emulsifier-free emulsion claimed by Appellants--that of Gers-Barlag plus Bentone 38 stabilizer--would have been obvious to one of ordinary skill in the art for the reasons given above.

Representative claim 13 depends upon claim 1 and further requires that the "flavone, flavonone and/or flavonoid" be "a flavone glycoside selected from the group consisting of α-glucosylrutin, α-glucosylmyricitrin, α-glucosylisoquercitin and α-glucosylquercitin." As the Examiner found, Suzuki teaches α-glucosylrutin. Answer (citing abstract). Additionally, Gers-Barlag teaches α-glucosylrutin as an antioxidant in amounts that encompass the range recited in claim 1, i.e., from 0.01 to 5.0% by weight. Col 6, l. 30 & ll. 43-44. *See* discussion *supra* at p. 6. It would have been obvious to the skilled artisan to select α-glucosylrutin as the "flavone, flavonone and/or flavonoid" recited in claim 1.

Conclusion

We affirm the rejection of all the pending claims, 1-5 and 7-20, based on the prior art relied upon by the Examiner and the reasoning given above.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (2004).

AFFIRMED

DEMETRA J. MILLS
Administrative Patent Judge

LORA M. GREEN
Administrative Patent Judge

NANCY J. LINCK
Administrative Patent Judge

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